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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VILLECCO, JOHN M

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/24/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/24/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

09/788,496

Applicant(s)

YASUDA, HIDEMASA

Examiner

John M. Villecco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 10-12 is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9 and 13-21 is/are rejected.
- 7) ☒ Claim(s) 15 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 13-16 of the response, filed January 30, 2007, with respect to the rejection(s) of claim(s) 6 and 7 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ueda (U.S. Patent No. 5,572,253).
2. Additionally, applicant's arguments filed January 30, 2007, with respect to the rejection(s) of claim(s) 1 and 2 have been fully considered but they are not persuasive. More specifically, applicant has added the limitation of selecting a predetermined correction value based on the determined brightness level. Applicant has argued that neither Lee nor Christoff discloses this limitation. Contrary to this assertion, the examiner believes Lee does disclose this limitation. Column 5, lines 1-35 of Lee teaches an embodiment in which the input signal is sent to the APL (average picture level) calculator (20), where the brightness of the image is determined. According to the output level of the APL calculator (20), the lookup table block corrects the image signal based on the stored brightness correction characteristics (col. 5, lines 20-25). Thus, the video brightness correction circuit of Lee does select a predetermined correction value based on the determined brightness value. For this reason, the rejection of claims 1 and 2 will be maintained.
3. Going back to claim 6, applicant argues that Christoff merely discloses adjusting a gain and exposure time according to determined brightness value. While the examiner agrees with this point, the examiner would also like to point out that based on the determined gain and

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exposure time the black level is also adjusted. Therefore, based on the determined brightness level the black level is also adjusted, albeit indirectly. As discussed in column 3, lines 50-55, raising the black level results in a brighter image.

4. Finally, since this office action includes a new grounds of rejection that was not necessitated by applicant amendment, *this action is non-final*.

Claim Objections

5. Claims 15 and 18 objected to because of the following informalities:

- In line 3 of claims 15 and 18, applicant recites the limitation of “correction values based of brightness levels”. This appears to be a typographical error and that the applicant meant to use the phrase – correction values based on brightness levels –.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 6-9 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Regarding claim 6, applicant recites the limitation of “a YC signal generating circuit adapted to perform gamma processing and chroma signal processing on the digital image signals”. It is clear from the specification that the YC signal generating circuit does not perform

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gamma processing and chroma signal processing on the digital image signals. As discussed on page 6 of the specification, it is the entire image processing circuit that performs the gamma processing and chroma signal processing, not the YC signal generating circuit. For examination purposes it will be assumed that the applicant meant that the entire image processing circuit performs gamma processing and chroma signal processing.

9. Claims 7-9 and 19-21 are rejected based on their dependency to claim 6.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 1, 2, 5, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent No. 5,546,134) in view of Christoff et al. (U.S. Patent No. 6,518,998).**

12. Regarding *claim 1*, Lee discloses an apparatus for correcting the brightness of an image signal. More specifically, Lee discloses an, A/D converter (10), an average picture level (APL) calculator (20) for determining the brightness of the image signal, a look-up table (30) for correcting the video signal according to the calculated brightness value, and a D/A converter (40). See column 4, line 65, to column 5, line 11. The A/D converter, the look-up table block, and the D/A converter are interpreted by the examiner to be the image processing circuit. The average picture level (APL) calculator (20) is interpreted to be part of the controller. A command control signal (output of the APL) is sent from the APL calculator (20) to the look-up

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table block to correct the brightness of the image signal. Column 5, lines 1-35 of Lee teaches an embodiment in which the input signal is sent to the APL (average picture level) calculator (20), where the brightness of the image is determined. According to the output level of the APL calculator (20), the lookup table block corrects the image signal based on the stored brightness correction characteristics (col. 5, lines 20-25). Thus, the video brightness correction circuit of Lee does select a predetermined correction value based on the determined brightness value. Additionally, Lee discloses that the correction of the video signal is done to correct signals picked up by cameras and displayed by a display. See column 1, lines 19-24. Since the limitation of correcting the video signals without lowering a S/N ratio appears to be a functional limitation, Lee needs only to be capable of performing video signal correction without lowering a S/N ratio. Therefore, since the claimed structure and the structure taught by Lee are identical, it is inherent that the structure of Lee would also correct video signals without lowering a S/N ratio.

Lee, however, fails to specifically disclose that the signal processing circuitry is implemented directly in a camera device. Christoff, on the other hand, discloses that it is well known in the art to include a controller for calculating brightness and connected to the imager and the image processor in a camera device. More specifically, Christoff discloses an imager (108) and a digital image processor (128). See column 3, line 65 to column 4, line 7. As discussed in Lee, the controller is interpreted to be the APL calculator in Lee. Clearly, if the circuit of Lee were used directly in a camera, the APL calculator would be indirectly connected to the imager and directly connected to the image processor. By directly implementing a brightness adjusting circuit directly in a camera, the brightness of an image signal can be

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adjusted in camera in real-time or before permanent saving. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the circuit of Lee directly into a camera device so that brightness can be adjusted in the camera.

13. As for **claim 13**, Christoff discloses an image processing part (112) that is directly connected to the imager. Furthermore, any image processing performed after capturing the image using an image can be interpreted to be the imaging processing part. Thus, any processing up to and including the image processing in Lee can also be interpreted to be the image processing part, thereby making the imager directly connected to the image processing part.

14. With regard to **claim 14**, Lee discloses an embodiment in Figure 5 that does not includes a variable gain amplifier.

15. Regarding **claim 15**, Christoff discloses that a memory (137) in the microcontroller (136) controls the operation of the camera, wherein the microcontroller writes calculated black levels to the register (138) in the DSP (128). See column 5, lines 35-55. Thus, the memory (137) in the microcontroller (136) sends black level information to the register (138) of the DSP (128).

Christoff, however, fails to specifically disclose that the memory (138) is an EEPROM. Official Notice is taken, however, that EEPROM's are well known in the art for storing data. EEPROM's serve as a memory that can store data without power. Therefore, one of ordinary skill in the art would have recognized that an EEPROM would provide an excellent way of accessing the data stored in the tables shown in Figure 3 to supply black level data to the register of the DSP of Christoff.

16. As for **claim 2**, Lee discloses an apparatus for correcting the brightness of an image signal. More specifically, Lee discloses an, A/D converter (10), an average picture level (APL)

calculator (20) for determining the brightness of the image signal, a look-up table (30) for correcting the video signal according to the calculated brightness value, and a D/A converter (40). See column 4, line 65, to column 5, line 11. The A/D converter, the look-up table block (correcting part), and the D/A converter are interpreted by the examiner to be the image processing circuit. The average picture level (APL) calculator (20) is interpreted to be part of the controller. A command control signal (output of the APL) is sent from the APL calculator (20) to the look-up table block to correct the brightness of the image signal. Column 5, lines 1-35 of Lee teaches an embodiment in which the input signal is sent to the APL (average picture level) calculator (20), where the brightness of the image is determined. According to the output level of the APL calculator (20), the lookup table block corrects the image signal based on the stored brightness correction characteristics (col. 5, lines 20-25). Thus, the video brightness correction circuit of Lee does select a predetermined correction value based on the determined brightness value. Additionally, Lee discloses that the correction of the video signal is done to correct signals picked up by cameras and displayed by a display. See column 1, lines 19-24. Since the limitation of correcting the video signals without lowering a S/N ratio appears to be a functional limitation, Lee needs only to be capable of performing video signal correction without lowering a S/N ratio. Therefore, since the claimed structure and the structure taught by Lee are identical, it is inherent that the structure of Lee would also correct video signals without lowering a S/N ratio.

Lee, however, fails to specifically disclose that the signal processing circuitry is implemented directly in a camera device. Christoff, on the other hand, discloses that it is well known in the art to include a controller for calculating brightness and connected to the imager

and the image processor in a camera device. More specifically, Christoff discloses an imager (108) and a digital image processor (128). See column 3, line 65 to column 4, line 7. As discussed in Lee, the controller is interpreted to be the APL calculator in Lee. Clearly, if the circuit of Lee were used directly in a camera, the APL calculator would be indirectly connected to the imager and directly connected to the image processor. By directly implementing a brightness adjusting circuit directly in a camera, the brightness of an image signal can be adjusted in camera in real-time or before permanent saving. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the circuit of Lee directly into a camera device so that brightness can be adjusted in the camera.

17. With regard to **claim 5**, Lee discloses an embodiment in Figure 5 that does not include a variable gain amplifier.

18. Regarding **claim 16**, Christoff discloses an image processing part (112) that is directly connected to the imager. Furthermore, any image processing performed after capturing the image using an image can be interpreted to be the imaging processing part. Thus, any processing up to and including the image processing in Lee can also be interpreted to be the image processing part, thereby making the imager directly connected to the image processing part.

19. With regard to **claim 17**, Lee discloses an embodiment in Figure 5 that does not include a variable gain amplifier.

20. Regarding **claim 18**, Christoff discloses that a memory (137) in the microcontroller (136) controls the operation of the camera, wherein the microcontroller writes calculated black levels to the register (138) in the DSP (128). See column 5, lines 35-55. Thus, the memory (137) in the microcontroller (136) sends black level information to the register (138) of the DSP (128).

Christoff, however, fails to specifically disclose that the memory (138) is an EEPROM. Official Notice is taken, however, that EEPROM's are well known in the art for storing data. EEPROM's serve as a memory that can store data without power. Therefore, one of ordinary skill in the art would have recognized that an EEPROM would provide an excellent way of accessing the data stored in the tables shown in Figure 3 to supply black level data to the register of the DSP of Christoff.

21. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (U.S. Patent No. 5,572,253) in view of Christoff et al. (U.S. Patent No. 6,518,998).

22. Regarding *claim 6*, Ueda discloses a camera that includes a lens (201), a diaphragm (col. 11, line 27), an image sensor (CCD, 202), an image signal processing circuit that includes an analog processing circuit (204), an A/D converter (205), a digital signal processing circuit (206), a gamma correcting circuit, a YC signal generating circuit, and a D/A converter (228, 229, 230), a display (col. 12, lines 43-50) for displaying images output from the digital signal processing circuit (206). The digital signal processing circuit performs gamma correction and color separation, wherein color separation is interpreted to be YC generation.

Ueda, however, fails to explicitly disclose that the camera includes a microcomputer connected to an EEPROM for controlling the diaphragm, shutter speed, and brightness of the image signal. Firstly, Official Notice is taken as to the fact that it is well known in the art to control the diaphragm and shutter speed of an image-sensing device using a microcomputer. This allows for a high quality image to be formed. Therefore, it would have been obvious to one

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of ordinary skill in the art to allow the camera of Ueda to control the diaphragm and shutter speed of the camera using a microcomputer so a high quality image is formed.

Secondly, Christoff discloses a camera that is capable of adjusting the brightness of an image signal by offsetting the image signal. More specifically, Christoff discloses a camera that includes an imager (108), a D/A converter (132), a video monitor (116), and signal processing circuitry (112) that includes an amplifier (120), an A/D converter (124), a DSP (126), and a controller (136). As disclosed in column 3, line 65 to column 4, line 7, a brightness of the incoming image signal is calculated and an image signal is corrected according to the brightness value. The image signal is then sent to the video monitor (116) after being corrected. The correction is performed by offsetting the brightness levels of the video signals by a correction value. The controller (136) controls the shutter speed of the imager (108). Based upon the calculated brightness value being below a threshold value, a correction value for the black level is obtained from the table. See Figure 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the brightness of the camera of Ueda in a manner similar to Christoff so that the brightness of the image can be adjusted for display.

Christoff, however, fails to disclose that the tables are stored in an EEPROM. Official Notice is taken, however, that EEPROM's are well known in the art for storing data. EEPROM's serve as a memory that can store data without power. Therefore, one of ordinary skill in the art would have recognized that an EEPROM would provide an excellent way of accessing the data stored in the tables shown in Figure 3 to supply black level data to the register of the DSP of Christoff.

23. As for *claim 20*, Christoff discloses that the microcomputer (136) output the black level information from the memory (137) directly to the image processing circuit (128).

24. **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (U.S. Patent No. 5,572,253) in view of Christoff et al. (U.S. Patent No. 6,518,998) and further in view of Eino (U.S. Patent No. 6,120,435).**

25. Regarding *claim 7*, as mentioned above in the discussion of claim 6, both Ueda and Christoff disclose the limitations of the parent claim. However, neither of the aforementioned reference discloses the use of a switch to select between a correction mode and a non-correction mode. Eino, on the other hand discloses a method of adjusting the brightness of an image, wherein a button (25A) is used to implement the brightening procedure. See Figure 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a switch in order to implement the brightness correction so that a user may manually select the desired brightness of the image.

Allowable Subject Matter

26. Claims 8, 9, 19, and 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

27. The following is a statement of reasons for the indication of allowable subject matter:

Regarding *claim 8*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest a variable gain amplifier which is controlled by

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the microcomputer to provide an optimum gain value falling within an effective gain range provided by a data table within the EEPROM and which does not permit a lowering of the SN ratio.

Regarding *claim 19*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that the imaging device is directly connected to the A/D converter of the image signal processing circuit.

As for *claim 21*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that signals from the imaging device are sent to the A/D converter of the image signal processing circuit without passing through a variable gain amplifier.

28. Claims 4 and 10-12 are allowed.

29. The following is an examiner's statement of reasons for allowance:

Regarding claims 4 and 10-12, the primary reason for allowance is that the prior art fails to teach or reasonably suggest a gain controlling part that controls a gain of the variable gain amplifier according to the brightness level of the video signals, wherein the gain of the variable gain amplifier is controlled to an optimum gain value falling within an effective gain range and which does not permit a lowering of an SN ratio.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

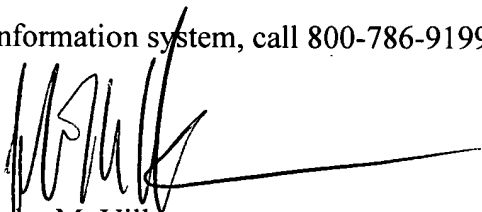
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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John M. Villecco
April 9, 2007